

## INTERNATIONAL SEARCH REPORT

Inte // Application No  
PCT/IB2005/050924

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC 7 H03L7/087 H03L7/089 H03D13/00		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC 7 H03L H03D		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 081 572 A (FILIP ET AL) 27 June 2000 (2000-06-27) the whole document	1-8,14
X	US 6 055 286 A (WU ET AL) 25 April 2000 (2000-04-25) column 3, line 12 - column 5, line 25; figures 1,2,4,6,7	1-8,14
X	DE 196 30 917 C1 (SIEMENS AG, 80333 MUENCHEN, DE) 26 March 1998 (1998-03-26) the whole document	1,2,5,6, 13
A	US 5 087 841 A (ROGERS ET AL) 11 February 1992 (1992-02-11) abstract; figure 3	8
<input type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
Date of the actual completion of the international search 6 May 2005		Date of mailing of the international search report 05. 08. 2005
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 851 epo nl, Fax: (+31-70) 340-3016		Authorized officer Waters, D

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## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see annex

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8,13,14

A frequency error detector and associated method.  
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2. claims: 9-12,13,15

A charge pump and associated method.  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter: ... Application No

PCT/IB2005/050924

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6081572	A	27-06-2000	EP 1116323 A1 JP 2002524897 T WO 0013305 A1	18-07-2001 06-08-2002 09-03-2000
US 6055286	A	25-04-2000	DE 19816124 A1 GB 2360157 A ,B GB 2360409 A ,B GB 2331646 A ,B JP 3041686 B2 JP 11041097 A	07-01-1999 12-09-2001 19-09-2001 26-05-1999 15-05-2000 12-02-1999
DE 19630917	C1	26-03-1998	WO 9806179 A1 EP 0916189 A1	12-02-1998 19-05-1999
US 5087841	A	11-02-1992	JP 3441465 B2 JP 4227319 A	02-09-2003 17-08-1992

VIII-2-1	<p><b>Declaration: Entitlement to apply for and be granted a patent</b>  Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate:  Name (LAST, First)</p>	<p>in relation to this international application</p> <p>KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled to apply for and be granted a patent by virtue of the following:</p>
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, SANDULEANU, Mihai, A., T.
VIII-2-1(i)		KONINKLIJKE PHILIPS ELECTRONICS N.V. is entitled as employer of the inventor, STIKVOORT, Eduard, F.
VIII-2-1(x)	This declaration is made for the purposes of:	all designations except the designation of the United States of America